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| APPLICATION NO.                                                      | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|----------------------------------------------------------------------|-------------|----------------------|-----------------------|------------------|
| 10/025,965                                                           | 12/18/2001  | David Wallace        | 11227-004001 / 108821 | 2134             |
| 20985                                                                | 7590        | 01/12/2006           | EXAMINER              |                  |
| FISH & RICHARDSON, PC<br>P.O. BOX 1022<br>MINNEAPOLIS, MN 55440-1022 |             |                      | NAGPAUL, JYOTI        |                  |
|                                                                      |             |                      | ART UNIT              | PAPER NUMBER     |
|                                                                      |             |                      | 1743                  |                  |
| DATE MAILED: 01/12/2006                                              |             |                      |                       |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/025,965

Applicant(s)

WALLACE ET AL.

Examiner

Jyoti Nagpaul

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### **DETAILED ACTION**

Amendment filed on October 24, 2005 has been acknowledged. Claims 1-38 are pending.

#### ***Response to Amendment***

Rejection of Claims 1,3-15,17-21,23-37 as being unpatentable over Sharples (US 4686752) in view of Tisone (US 6063339) has been modified in light of applicant's arguments.

Rejection of Claims 2,37 and 38 as being unpatentable over Ledford (US 5215340) in view of Tisone has been modified in light of applicant's arguments.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. **Claims 1,3-12 and 33-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharples (US 4686752) in view of Tisone (US 6063339).

Sharples discloses an amino acid analyzer. The apparatus comprises a jetting tube (40) made of glass capillary comprising an orifice for dispensing liquid therefrom at one end and an aperture at the other end. The device further comprises retaining means (114) for collecting, capturing or at least temporarily retaining one or more compounds from liquid contacting the apparatus.

Sharples fails to disclose a transducer coupled with the jetting tube and adapted to apply pressure pulse to the jetting tube in response to an electrical signal applied to the transducer such that liquid in the jetting tube is caused to move.

Tisone discloses an automated microdispensing apparatus for sampling, collecting and dispensing a compound in small volumes of liquid. The apparatus is desirable to provide precise patterns or dot arrays of sample on a substrate. A transducer for piezoelectric is coupled with the jetting tube and adapted to apply a pressure pulse to the jetting tube in response to an electrical signal applied to the transducer such that liquid in the jetting tube is caused to move. (See Figure 3, Col. 4,

Lines 42-44) The frequency and/or velocity of the droplets can be adjusted. (Col. 10, Lines 8-10)

It would have been obvious to one of the ordinary skill in the art to modify the device of Sharples such that the transducer is disposed between the retaining means and the orifice of the jetting tube in order to precisely place the desired amount of sample and patterns on a substrate can be accurately sampled.

With respect to **Claims 10 and 11**, Sharples does not disclose a plurality of jetting tubes. However, It would have been obvious to one of the ordinary skill in the art to modify the device of Sharples and to include the transducers of Tisone in order to increase efficiency and high-throughput of sample analysis.

3. **Claims 13-15 and 17-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharples (US 4686752) in view of Tisone (US 6063339) in further in view of Pelc (US 6203759).

Refer above for the teachings of Sharples and Tisone.

Sharples and Tisone fail to explicitly disclose providing a liquid to or from jetting tube such that the tube may be washed and any compounds captured or retained by collecting means be eluted or removed.

Sharples and Tisone fails to explicitly disclose a MALDI-TOF MS analyzer. This type of analyzer is conventionally known in the art. Thus, It would have been obvious to one of the ordinary skill in the art to modify the device of Sharples in combination with Tisone such that a MALDI-TOF MS analyzer is provided in order to attain an accurate and desired analysis of the sample.

Pelc teaches a microvolume liquid handling system. The system comprises a dispenser that can automatically detect the liquid surface of the transfer liquid, automatically aspirate, analyze desired volume of the transfer liquid, dispense the transfer liquid without contacting the destination vessel or its contents, and automatically wash off the transfer liquid from dispensing system after each transfer. (See Col. 5, Lines 1-6)

It would have been obvious to one of the ordinary skill in the art to modify the device of Sharples in combination with Tisone such that a liquid is provided to or from the jetting tube so the tube may be washed and any compounds captured or retained by collecting means be eluted or removed in order to eliminate cross-contamination of samples.

4. **Claims 2,37 and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ledford (US 5215340) in view of Tisone.

Ledford discloses a chromatography column device. The device includes a jetting tube (22) that comprises an orifice (21b) for dispensing liquid. The device further comprises a retainer for collecting, capturing or at least temporarily retaining one or more compounds. The retaining means/packing forms a part of and modifies the inner surface of the jetting tube. (Col. 1, Lines 19-23)

Ledford fails to disclose a transducer coupled with the jetting tube and adapted to apply a pressure pulse to the jetting tube in response to an electrical signal applied to the transducer such that liquid in the jetting tube is caused to move.

Refer above for the teachings of Tisone.

It would have been obvious to one of the ordinary skill in the art to modify the device of Ledford such that the transducer is disposed between the retainer and the orifice of the jetting tube in order to precisely place the desired amount of sample and patterns on a substrate, which then can be accurately sampled.

### ***Response to Arguments***


5. Applicant's arguments with respect to claims 1-38 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti Nagpaul whose telephone number is 571-272-1273. The examiner can normally be reached on Monday thru Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700